

*On the GEOLOGY and ORGANIC REMAINS of a part  
of the Peninsula of Maryland.* By TIMOTHY A.  
CONRAD.

[Read May 20, and June 15, 1830.]

AT the request of several members of the Academy, I lately visited the peninsula of Maryland, for the purpose of collecting organic remains, and observing the geological characters of that district. The beauty and variety of fossil shells which abound there, as well as their importance in geology, would long since, it might be supposed, have enlisted many active inquirers; but such has not been the fact. Mr. Maclure included it, with a vast tract which has also no claim to the title, under the term Alluvial; and but little notice appears to have been taken of the peninsula of Maryland, until Mr. Say described about forty species of fossil shells, brought from thence by Mr. Finch. Neither of these gentlemen, however, drew any geological inferences from the organic remains they examined: but Dr. Van Rensselaer has since referred the deposits in question to the Upper Marine formation, as described by Conybeare and Phillips. Dr. S. G. Morton, in a former number of this Journal, supports the same opinion; and indicates several species of fossil shells which are common to both sides of the Atlantic: a list of these species will be given, including a few others which have since been ascertained.

The Tertiary deposits of Maryland occupy all the tract south of an irregular line running from the vicinity of Baltimore to the city of Washington; the Potomac river forms the western, and the Chesapeake bay the eastern boundary of this triangular peninsula. Its greatest length from the northern boundary of the Tertiary, is about ninety miles; the whole is covered by a diluvial deposit of sand and gravel, which generally conceals the strata of organic remains, except in the beds of streams, or the sides of ravines, which are often very deep; in some few places, the fossils appear near the surface, as at Fort Washington, in the vicinity of which perhaps the oldest of the beds to be noticed in this paper occur.

About three miles north of the low sandy point which forms the southern extremity of the peninsula, the bank of the Potomac rises to an elevation of about fifteen feet at its highest point: the fossils are visible in this bank to the extent of a quarter of a mile. The inferior stratum is a lead coloured clay, containing vast numbers of the *Maetra lateralis* of Say; which, in many instances, appear in nearly vertical veins, as though they had fallen into fissures. The *Pholas costata* is also numerous, and each individual remains in the position in which the living shell is usually buried in the sand or mud; that is, vertical, with the posterior or short side pointing downwards; they are so fragile, that they can rarely be taken entire from the matrix. Upon this stratum of clay, in a matrix of sand, lies a bed of the *Ostrea Vir-*

*ginica*, in some places a foot in thickness. It is nearly horizontal; in some places at least eight or ten, and in others not more than four feet above high water mark. The diluvial above exhibits a vein of small pebbles, traversing it horizontally, and at a distance resembles a stratum of shells. Not only are the fossils of this locality the same as existing species, but in some instances they retain their colour; a circumstance common to the later deposits of Europe. The distance to the nearest point on the Atlantic ocean is about forty-five miles, but it is at least one hundred by the course of the bay. The following list includes all the fossils of this locality.

N. B. Those species which are found recent on our coast are printed in *italics*, and those to which a C. is appended, I have described as new.

## UNIVALVES.

- Acteon melanoides.* C.  
*Crepidula convexa.* Say.  
 ———— *glauca.* Say.  
*Fusus cinereus.* Say.  
*Nassa obsoleta.* Say.  
 ———— *trivittata.* Say.  
*Natica duplicata.* Say.  
 ———— *interna.* Say.  
*Ranella caudata.* Say.  
*Scalaria.*

## BIVALVES.

- Arca transversa.* Say.  
 ———— *ponderosa.* Say.  
*Corbula contracta.* Say.

*Clathrodon cuneata*\* Gray.

*Cytherea convexa*. Say.

*Maetra lateralis*. Say.

*Mya mercenaria*. Say.

*Mytilus hamatus*. Say.

*Nucula lævis*. Say.

————— *concentrica*. Say.

*Pandora trilineata*. Say.

*Petricola pholadiformis*.† Lam.

*Pholas costata*. Lam.

*Psammobia fusca*. Say.

————— *lusoria*. Say.

*Solen caribeus*. Lin.

————— *ensis*. Lin.

*Venus mercenaria*. Lam.

Venus.

It will be observed, that nearly all the above shells are known to inhabit the shores of the United States at the present time; the few of them which are now only known in the fossil state are extremely rare, or of minute dimensions, and have, probably, from these causes, escaped the scrutiny of those of our conchologists who have given their attention exclusively to recent species.

Some of the above existing species, however, are at present inhabitants of much more southern latitudes than their fossil locality. Thus the *Mytilus hamatus*, *Clathrodon cuneata*, *Arca ponderosa*, &c., are rarely found beyond Florida and the Gulf of

\* I believe this shell to be the *Cyrena truncata* of Lam.

† *P. fornicata*, Say.

Mexico. The recent *Mya mercenaria* abounds in the Potomac river, and in the Chesapeake bay and its inlets; but its usual associate, the *Venus mercenaria*, does not exist in the Potomac or its tributaries.

It is obvious that this deposit of marine organic remains, is the most recent hitherto discovered in this country. To what class of formations it strictly belongs, is a question I leave for others to answer; inasmuch as its characters are perhaps too recent even for the *Upper Marine* deposits of the European geologists. Its relics are sub-fossilized, and in this respect resemble some of the most recent formations of the West India islands.

At the distance of fifteen miles north of the above-mentioned locality, and in the precipitous banks of St. Mary's river, organic remains of a very different character abound: they occur on both sides of the river (which is one mile broad), but they are most numerous on the western shore, extending with some interruption nearly a mile. Like the *Upper Marine* in England, this locality contains many extinct species; it also furnishes a large number of genera, with few species of each, while the individuals are in great abundance; indeed they are scattered along the shore in such profusion, and at the same time are so perfect, that they might easily be mistaken by an unpractised observer for recent shells; especially where the waves cast them up on a low sandy point, at a distance from the bluffs where the deposits occur *in situ*. But, although the water of St. Mary's river

is brackish, the existing species are few, and, except the *Ostrea virginica*, probably none of them found here in a fossil state. The bank is precipitous in many places, and is elevated perhaps thirty feet at the highest point above tide water; a stratum of shells is here observed fifteen feet above the river, and the vein of pebbles traverses the overlying diluvial, as at the first mentioned locality. Silicious masses, with imbedded shells, are numerous, and are used for the foundations of buildings. The inferior stratum of these banks is clay, which appears to contain the same species of shells with the sand above it.

The *Voluta Lamberti* of Sowerby, is not a rare species at this locality, which, in its geological features, much resembles that part of Suffolk where the same shell occurs, described in Sowerby's Mineral Conchology, vol. ii. p.67. The Crag is there described as resting upon blue clay, and the organic remains of the former mix with those of latter. The same fact is also observed in most of the tertiary deposits of Maryland; the matrix of the shells in Suffolk is in some places very loose, and in others so indurated as to be used in building, and answers in every particular to the beds at St. Mary's river.

I obtained at this place the following organic remains:—

#### UNIVALVES.

- Acteon ovoides. C.
- Bulla acuminata. Sow.
- Calyptrea grandis. Say.

- Calyptraea costata.* Say.  
*Cassis coelata.* C.  
*Cancellaria lunata.* C.  
*Conus diluvianus.* Green.  
*Dentalium attenuatum.* Say.  
*Fasciolaria Lamberti.*\*  
*Fusus cinereus.* Say.  
*Fusus quadricostatus.* Say.  
 ——— *errans.* C.  
*Murex acuticosta.* C.  
*Nassa trivittata.* Say.  
 ——— *obsoleta.* Say.  
 ——— *lunata.* Say.  
 ——— *quadrata.* C.  
*Natica duplicata.* Say.  
 ——— *heros.* Say.  
*Pleurotoma catenata.* C.  
 ——— *limatula.* C.  
 ——— *communis.* C.  
 ——— *parva.* C.  
 ——— *rotifera.* C.  
 ——— *gracilis.* C.  
 ——— *dissimilis.* C.  
*Pyrula carica.* Lam.  
 ——— *canaliculata.* Lam.  
*Scalaria clathrus.*  
*Terebra simplex.* C.  
*Trochus humilis.* C.  
 ——— *reclusus.* C.  
*Turritella plebeia.* Say.  
 ——— *variabilis.* C.

\* *Voluta Lamberti*, Sowerby.

*Turritella laqueata.* C.

*Voluta solitaria.* C.

### BIVALVES.

*Amphidesma carinata.* C.

*Astarte undulata.* Say.

*Arca arata.* Say.

*Cardium.*

*Corbula inequale.* Say.

———— *cuneata.* Say.

*Cytherea concentrica.* Lam.

———— *convexa.*

*Isocardia rustica.\**

*Lucina cribraria.* Say.

*Mactra ponderosa.* C.

*Mactra.*

*Ostrea virginica.* Lam.

*Pecten Madisonius.* Say.

*Pholas costata.* Lam.

*Saxicava distorta.* Say.

*Solen ensis.* Lin.

*Venericardia granulata.* Say.

*Venus mercenaria.* Lam.

———— *raphia?*

Near Charlotte Hall, about thirty miles north of St. Mary's river, a vast deposit of the *Perna maxilla*, of Lam., lies at the base of a ravine, at least thirty feet below the surface of the diluvial; the matrix is sand. In the bed of a rivulet, I found many specimens of the *Pecten Madisonius*; and I was informed that a large bed of oyster shells (probably

\* *Venus rustica*, Sowerby; *Isocardia fraterna*, Say.



the *O. compressirostra* of Say) also occurred in this vicinity, but I did not see it. Charlotte Hall is in the north of St. Mary's county, at about an equal distance between the Potomac and Patuxent rivers. I found at this place the following shells:

Patella.

Isocardia rustica.

*Venus mercenaria*. Lam.

Pecten Madisonius. Say.

Perna maxilla. Lam. (*P. torta*, Say.)

Owing to the rains which fell during my stay at Charlotte Hall, I was unable to make the necessary researches and observations; otherwise, no doubt, the list of fossils would have been greatly extended.

Twenty miles north of Charlotte Hall, at the village of Piscataway, the organic remains appear as a superficial deposit. This village is situated in Prince George's county, five miles east of Fort Washington on the Potomac. In the side of a ravine, traversed by a small stream, a bed of the *Turritella Mortoni* (nobis) occurs, accompanied by the *Venericardia planicosta*\* of Lamarck; both are quite numerous; the matrix is a mixture of sand and clay, but the latter predominates.

Shells are also imbedded in a silicious vein, which traverses the bank of Piscataway creek, about six feet above the level of the water; indurated masses, containing casts of shells with merely a trace of the

\* Lamarck, Ann. du Mus. Sowerby, Min. Conch., vol. i. pl. 50.

shell remaining, are very commonly met with in the neighbourhood.

The shells I obtained here, are comprised in the following list:

Monodonta glandula. C.

Natica.

Turritella Mortoni. C.

Nucula.

*Venus mercenaria.*

Venericardia planicosta. Lam.

Crassatella alæformis. C.

The indurated matrix of various indeterminate shells may be observed here, and on the road leading from the above mentioned village to Fort Washington. The fort is situated immediately on the Potomac, at an elevation, perhaps, of one hundred feet above tide water: nearly on the summit of this bank, abundant fragments of the *Ostrea compressirostra* (Say), a species here very numerous, indicate perhaps the greatest elevation at which the fossils of this formation are found. West of the fort is a deep valley, through which runs a small brook, nearly parallel with the course of the Potomac; in the bed of which, some distance north of the fort, numerous casts of a species of *Turritella* are imbedded in a very hard silicious matrix. Indurated casts of the *Cucullæa gigantea* (nobis), upon which the shell remains, are observed in the side of a ravine running nearly at right angles with the brook, and terminating on the summit of the hill near the fort; these casts are

associated with very entire and numerous individuals of the *Ostrea compressirostra*, and are imbedded in loose sand. I could find no trace of fossil shells in the precipitous bank of the river, and I was unable to ascertain the depth of the deposit; this bank exhibits a thick bed of clay, containing abundance of selenite, and, on the authority of Dr. Jackson of Fort Washington, is sometimes coated by an efflorescence of alum. I also found in it a fragment of a bone of some marine animal. Below the clay is a friable ferruginous sandstone, appearing in loose blocks, but very limited in extent; the clay, south of this sandstone deposit, extends at least to the level of the river.

It seems to me probable, that a formation contemporaneous with the *London clay* also exists in Maryland, and I would suggest that the deposit (in the vicinity of Fort Washington) just mentioned, is an indication of it. It has been observed that the organic remains of this locality are considerably different from those of other parts of the peninsula. I met with the *Turritella Mortoni* and *Cueullæa gigantea* in no other place. The *Venericardia planirosta* is abundant, though generally friable and difficult to preserve entire; I however obtained a pair of fitting valves, in a perfect state, about four and a half inches in diameter, and answering, I conceive, in every particular to the descriptions and figures of this fossil as given by Lamarck, in the "Annales du Museum," and by Sowerby, in his "Mineral Conchology."

This large and beautiful species is characteristic of the equivalents of the London Clay, in its various deposits from England to Piedmont. Its discovery in our own country is, therefore, an interesting occurrence in geology.

For the present we may safely note the following species as common to the United States and Europe:

1. *Pectunculus subovatus*. Say.  
*Syn.* *P. variabilis*. Sowerby.
2. *Lucina divaricata*\* Lam.
3. *Isocardia rustica*.  
*Syn.* *I. fraterna*. Say.  
*Venus rustica*. Sowerby.
4. *Cytherea concentrica*. Lam.  
*Syn.* *Venus lentiformis*. Sowerby.
5. *Solen ensis*. Lin.
6. *Venericardia planicosta*. Lam.
7. *Ostrea virginica*.† Lin.
8. *Bulla acuminata*. Sowerby.
9. *Fissurella græca*. Lam.
10. *Fasciolaria Lamberti*. *Voluta Lamberti*.  
Sowerby.

\* This interesting shell is at present found recent in the West Indies, in the United States, and on the coast of Europe: it is found fossil in England, France, and Maryland. These facts show how extensive may be the distribution, and how long the duration, of a single species.

† Brongniart observes, that this oyster is found at Nissan, between Narbonne and Beziers, in France.

Whoever will compare the Maryland fossil shells with those from New Jersey and Delaware, will be struck with the fact, that not a solitary species is common to both formations; that not one of the Maryland genera is extinct; and that many of the species are still inhabitants of our coast. These facts, so at variance with those which characterize the Marl district, thoroughly corroborate the opinion of Dr. Morton that the latter is of Secondary origin.

Geological researches into the fossil deposits of Maryland have but recently commenced; they already present us with about one hundred species of shells; a number which will no doubt be greatly augmented by future inquirers. It is my intention to furnish a few supplementary observations on a future occasion, and I will then give a complete catalogue of the fossils of Maryland.

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#### APPENDIX:

*Containing descriptions of twenty-nine new species of FOSSIL SHELLS, noticed in the preceding paper. By the same.*

[Read June 22, 1830.]

GENUS MUREX. *Lin. Lam.*

*Murex acuticosta.* Plate ix. fig. 1.

Shell with four or five acute foliated varices ending above in a pointed, compressed spire, alternating

with four shorter rounded varices ending above in a tube; aperture oval and entire; margin reflected; beak closed, and slightly recurved.

This shell is allied to the *M. tubifer* of Lam., but it has no tubes, nor spires, except those which crown the summit of the whorls. I found but one perfect specimen of this species.

Cabinet of the Academy.

#### GENUS VOLUTA. *Lin. Lam.*

*Voluta solitaria.* Plate ix. fig. 7.

Shell ovate oblong, smooth; spire with the whorls concave above, and straight at the sides, having the angles tuberculated; aperture dilated at the base; columella four plaited.

The large whorl is obsoletely striated at the base, and the plaits on the columella are oblique and subequal. I obtained but a single specimen.

Cabinet of the Academy.

#### GENUS CASSIS. *Lam.*

*Cassis cœlata.* Plate ix. fig. 14.

Shell with transverse tuberculated ribs, and intervening striæ; whorls of the spire longitudinally ribbed; right lip toothed within; columella granulated and wrinkled.

The transverse striæ of the grooves between the ribs are very distinct, and between each of the tubercles

a longitudinal raised line crosses the grooves, giving the shell somewhat of a cancellated appearance.

Cabinet of the Academy.

GENUS TROCHUS. *Lin. Lam.*

1. *Trochus humilis*. Plate ix. fig. 5.

Shell depressed, with very fine transverse striæ; sides straight: whorls with a very slight obtuse elevation revolving immediately above the suture; apex acute; aperture rhomboidal; umbilicated.

The specimen from which the above description was taken, exhibits part of its original markings; a band of light coloured minute spots revolves near the suture on the large whorl; and another band of similar, but larger spots revolves near the middle of the same volution; the striæ are very strong on the base, particularly near the umbilical margin. It is a very rare species.

Cabinet of the Academy.

2. *Trochus reclusus*. Plate ix. fig. 6.

Shell much depressed; transversely striated; whorls flattened on the summit, with straight sides; aperture transversely ovate; umbilicus profound, earinated and slightly funnel-shaped.

The carina within the umbilicus is visible on the two last whorls: both species have lost part of their outer coating, and are pearly and iridescent. But a single individual was found with the preceding species.

Cabinet of the Academy.

GENUS MONODONTA. *Lam.*

*Monodonta glandula*. Plate ix. fig. 15.

Shell conical, with about four convex volutions; revolving striæ fine, crowded and wrinkled; suture deeply impressed; right lip toothed within at the base; margin entire.

The teeth or tubercles extend to the base of the columella of this shell. I obtained but one specimen.

Cabinet of the Academy.

GENUS PYRULA. *Lam.*

*Pyrula sulcosa*. Plate ix. fig. 8.

Shell pyriform; ventricose; transversely ribbed, and longitudinally sulcated; summit of the whorls flattened, and subcanaliculate; right lip striated within; channel much contracted; beak straight or slightly recurved at the base.

This is a remarkable and beautiful species, for which I am indebted to Dr. Morton.

*Pyrula canaliculata*. *Lam.* A variety of this shell is found at St. Mary's river, which is coronated with elevated tubercles; it has also very fine transverse striæ, elegantly decussated by the lines of growth. It is accompanied by numbers of the variety of *P. carica* indicated by Say, in a former number of this Journal.

Cabinet of the Academy.



GENUS *TURRITELLA*. Lam.1. *Turritella Mortoni*. Plate x. fig. 2.

Shell turreted, conical, thick, with revolving distant, and finer intervening striæ; whorls with an elevated acute carina near the base of each; volutions about eleven; the striæ are largest on the elevations of the whorls, which are slightly concave above, and abruptly terminate at the sutures; the lines of growth on the last whorl are strong and much undulated.

I dedicate this species to my friend Dr. S. G. Morton, who has so ably illustrated the geology of this country connected with its organic remains.

Cabinet of the Academy.

2. *Turritella variabilis*. Plate x. fig. 3.

Shell subulate, turreted, tapering to an acute apex; whorls flattened in the middle, with from two to five smooth ribs on each, and transversely striated; suture impressed.

The ribs are generally three in number, but a variety occurs with two only, or the intermediate one becomes obsolete. The largest specimens, which much exceed the figure in size, sometimes have five ribs on each whorl.

Cabinet of the Academy.

3. *Turritella laqueata*. Plate ix. fig. 17.

Shell turreted, smooth, polished, longitudinally ribbed; whorls slightly convex; suture impres-

sed; aperture ovate. One-fifth of an inch in length.

It has some resemblance to the *Turbo simillimus* of Montagu, but the ribs are more numerous, and it is also a larger species.

Cabinet of the Academy.

#### GENUS CANCELLARIA. *Lam.*

*Cancellaria lunata*. Plate ix. fig. 4.

Shell turreted, with longitudinal oblique ribs; transversely sulcated; whorls of the spire narrowed at the base and flattened on the summit; apex acute; right lip regularly toothed within; columella with three plaits, the upper one large and distant, and the last plait uniting with the base of the columella; aperture lunate.

I found but a single individual of this species at St. Mary's river.

Cabinet of the Academy, and Dr. Morton's collection.

#### GENUS NATICA. *Lam.*

*Natica fragilis*. Plate ix. fig. 3.

Shell ovate, thin, fragile, smooth, with fine revolving impressed striæ; spire very small; apex acute; aperture extending about four-fifths of the length of the shell; columella much narrowed and arcuated, exhibiting the internal volutions.

Dr. Morton's collection.

GENUS FUSUS. *Lam.**Fusus errans.* Plate ix. fig. 2.

Shell subfusiform, transversely striated, with short longitudinal ribs or undulations on the large whorl; spire conical, costated; upper part of the whorls concave and plain; right lip toothed within, and plicated on the margin; beak recurved.

The striæ in general are alternately larger and smaller. This is a numerous species, and has a general resemblance to some varieties of the *F. cinereus* of Say, but it is very distinct.

Cabinet of the Academy.

*Fusus cinereus.* *Say.* The variety of this shell mentioned by Say, in a former number of the Journal, is found at St. Mary's river four and a half inches in length. I have no doubt that it is identical with the *F. cinereus*, notwithstanding its size and the produced beak.

GENUS PLEUROTOMA. *Lam.*1. *Pleurotoma catenata.* Plate ix. fig. 13.

Shell subfusiform; with two approximate chain-like or nodose carinæ on each whorl; the large whorl with strong revolving and intervening finer striæ; spire elevated, conical; whorls concave on the upper part; beak slightly recurved.

The carinæ upon the whorls of the spire are placed nearest the base: the old shells of this species become quite thick, and have the right lip much

arcuated; the spire occupies about half the length of the shell.

Cabinet of the Academy.

2. *Pleurotoma limatula*. Plate ix. fig. 12.

Shell subfusiform, glabrous, with short oblique longitudinal ribs; whorls concave above and plain; left lip reflected over the columella with a callus at its superior termination.

Cabinet of the Academy.

3. *Pleurotoma communis*. Plate ix. fig. 23.

Shell subfusiform, smooth, with one obtuse carina revolving in the middle of each whorl, except the last, which has three; the lowest one obsolete; beak attenuated and slightly recurved.

This is a numerous species of the locality at St. Mary's river.

Cabinet of the Academy.

4. *Pleurotoma rotifera*. Plate ix. fig. 9.

Shell subfusiform; spire with an elevated crenulated carina on each whorl; two approximate carinæ near the middle of the large volution; sinus profound.

I obtained but one specimen, which was at the same locality as the preceding.

Cabinet of the Academy.

5. *Pleurotoma dissimilis*. Plate ix. fig. 11.

Shell conical, smooth; spire with obsolete oblique

nodules joining the suture at the base of each volution; suture impressed; left lip with a callus at its superior termination; columella truncated; a slight sinus at the base of the right lip.

Cabinet of the Academy.

6. *Pleurotoma gracilis*. Plate ix. fig. 10.

Shell subfusiform; spire and beak attenuated; whorls with two revolving rows of tubercles on each, divided by a striated sulcus; whorls strongly striated at the base; suture undulated; large whorl with strong distant revolving and intervening finer striæ.

A variety occurs with only one row of tubercles on each whorl, and an impressed line beneath.

Dr. Morton's collection.

7. *Pleurotoma parva*. Plate ix. fig. 18.

Shell subfusiform, transversely striated, with oblique longitudinal ribs; upper part of the whorls concave and plain.

This small but elegant species is quite numerous at St. Mary's river.

Cabinet of the Academy.

GENUS MARGINELLA. *Lam.*

*Marginella denticulata*. Plate ix. fig. 21.

Shell smooth, polished, spire conical; columella four plaited, the three lower plaits oblique; right lip

denticulate within; aperture rather more than half the length of the shell.

Cabinet of the Academy.

GENUS NASSA. *Lam.*

*Nassa quadrata*. Plate ix. fig. 16.

Shell turreted; spire with the whorls rather square, and slightly projecting at the angles; left lip reflected over the columella, and thickened above.

This appears to be a distinct species, but all the specimens I have seen are imperfect: in some, there are traces of tubercles on the angles of the whorls, and the young shells have the whorls less angular.

Cabinet of the Academy, and Dr. Morton's collection.

GENUS TEREBRA. *Lam.*

*Terebra simplex*. Plate ix. fig. 22.

Shell elongate conical, smooth, with plain undivided whorls; sides straight; the lines of growth are very distinct, and the large whorl slopes abruptly towards the base; the aperture is rather large.

This species is quite numerous.

Cabinet of the Academy.

GENUS ACTEON. *Mont.*

1. *Acteon melanoides*. Plate ix. fig. 19.

Shell conical, with about six volutions, strongly striated transversely; the striæ are three or four in

number on the upper whorls, and the last has about eight; the aperture is ovate, with the fold in the centre.

Cabinet of the Academy.

2. *Acteon ovoides*. Plate ix. fig. 24.

Shell ovate, smooth, polished, transversely striated; spire short and conical; aperture more than half the length of the shell; suture deeply impressed. The striæ are about twenty in number on the large whorl, and are impressed; the aperture is long and moderately wide, and the fold large.

Cabinet of the Academy.

GENUS CUCULÆA. Lam.

*Cuculæa gigantea*. Plate x. fig. 4.

Shell subtriangular, obliquely cordate; very ventricose, with numerous longitudinal sulci; anterior side flattened, produced and subeuneiform; posterior side very short; umbones gibbous; beaks distant, and much incurved.

Three and three quarter inches in length; and five and a quarter inches in breadth.

This large *Cuculæa* is very abundant in the neighbourhood of Fort Washington, where it may be observed nearly entire; but as the cast is extremely hard, and the shell chalky, it is seldom extracted from the matrix with even a small portion of the shell attached.

Cabinet of the Academy.

GENUS MACTRA. *Lin. Lam.*

*Maetra ponderosa.* Plate x. fig. 5.

Shell subtriangular, convex, thick, concentrically undulated; anterior margin depressed, with an obtuse plication at the angle; beaks nearest the posterior margin.

Three and a quarter inches in length, and four and a quarter inches in breadth. The cardinal pit is large, thick, and subcordate, and the lateral teeth are short and very robust; when the valves are closed, the depression on the anterior slope forms a slightly concave area.

This shell never equals in size the *M. solidissima* of Dillwyn, but it is generally thicker and heavier: it is numerous at St. Mary's river; and imperfect specimens were long since obtained by Mr. Finch. This is the same fossil which Dr. Morton supposed to be the *M. grandis* (*M. solidissima*) of our coast. *Vide* p. 118.

GENUS CRASSATELLA. *Lam.*

*Crassatella alæformis.* Plate x. fig. 1.

Shell transversely ovate oblong; anterior side rostrated; posterior side short and rounded; umbones transversely sulcated; margin slightly crenulated within.

I found but a single valve of this species, which is very distinct from Say's *C. undulata*.

Cabinet of the Academy.



GENUS VENERICARDIA. *Lam.*

*Venericardia Blandingi*. Plate ix. fig. 20.

Shell suborbicular; ribs about twenty, rather square, with a rough tuberculated carina on the back of each; anterior margin slightly truncated.

This shell is very like Sowerby's *V. carinata*, but it is smaller, and the carinæ are not smooth: it has been imbedded in a hard silicious matrix, and the carinæ are worn, except near the margin, where they are very distinct.

I am indebted to Dr. Morton for this fossil; it was sent to him by Dr. Blanding, of Camden, S. C., who found it at Vance's Ferry in that state, where other shells occur characteristic of the Maryland Upper Marine formation.

Cabinet of the Academy.

GENUS AMPHIDESMA. *Lam.*

*Amphidesma carinata*. Plate ix. fig. 23.

Shell transversely ovate, with concentric, rather distant, elevated, acute striæ; intervals transversely striated; anterior side with a slight fold; beaks rather prominent, with the apex acute; lateral teeth none.

Cabinet of the Academy.

## EXPLANATION OF THE PLATES.

- PLATE IX. Fig. 1. *Murex acuticosta*.  
2. *Fusus rusticus*.\*  
3. *Natica fragilis*.  
4. *Cancellaria lunata*.  
5. *Trochus humilis*.  
6. ———— *reclusus*.  
7. *Voluta solitaria*.  
8. *Pyrula sulcosa*.  
9. *Pleurotoma rotifera*.  
10. ———— *gracilis*.  
11. ———— *dissimilis*.  
12. ———— *limatula*.  
13. ———— *catenata*.  
14. *Cassis cælata*.  
15. *Monodonta glandula*.  
16. *Nassa quadrata*.  
17. *Turritella laqueata*.  
18. *Pleurotoma parva*.  
19. *Acteon melanoides*.  
20. *Venericardia Blandingi*.  
21. *Marginella denticulata*.  
22. *Terebra simplex*.  
23. *Pleurotoma communis*.  
24. *Acteon ovoides*.  
25. *Amphidesma carinata*.

- PLATE X. Fig. 1. *Crassatella alæformis*.  
2. *Turritella Mortoni*.  
3. ———— *variabilis*.  
4. *Cuculæa gigantea*.  
5. *Mactra ponderosa*.

\* The specific name *errans* being preoccupied, I have adopted that of *rusticus*.

*Note.*—I regret to be obliged to state, that fig. 3, on plate x., is not a correct copy of my drawing; there should be no such irregularity in the ribs, nor distortion of the whorls, as in the figure. Figures 17, 18, and 19, are perhaps too small for the crayon; they can only serve to show the natural sizes and outlines of the shells. In fig. 24, the fold on the columella is far too indistinct.